

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department
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**Federal Aviation
Administration**

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<http://www.faa.gov/aircraft/safety/alerts/SAIB>

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin alerts you, owners and operators of **airplanes with pilot and copilot seats equipped with unguarded rotary seat belt buckles**. These buckles have the potential of being activated unintentionally, releasing the seat belts attached to them. These buckles may be installed on, but are not limited to the aircraft listed in Table 1.

Background

We have researched the design of pilot and copilot rotary seat belt buckles and have determined there is a potential for the rotary buckle to be activated unintentionally, releasing the seat belts attached to them.

The National Transportation Safety Board (NTSB) issued recommendation A-03-057 after investigating the January 8, 2003, crash of a Raytheon (Beechcraft) 1900D, shortly after takeoff from Charlotte-Douglas International Airport.

NTSB Recommendation A-03-057:

"Identify all airplanes equipped with unguarded flight crewmember rotary seatbelt buckles and require replacement with guarded buckles that cannot be inadvertently unlatched"

The investigation determined that the captain's rotary seat belt buckle became unbuckled during the accident. A Beech 1900 pilot also told NTSB investigators that he had previously experienced the uncommanded (unintentional) release of a rotary buckle. The buckle released when the pilot pulled the control yoke aft and contacted the vanes of the rotary buckle. The Air Line Pilots Association (ALPA) reported it was aware of five similar events.

NTSB staff conducted post-accident ground tests on a Beech 1900D airplane during which a person about the same height as the captain, seated in a crewmember seat, pulled aft on the yoke and rotated the yoke. The tests showed that it was possible for the yoke to contact the rotary seat belt buckle vane and rotate the seat belt buckle. This series of events is consistent with information on the accident flight's digital flight data recorder.

Recommendation

We recommend you conduct an evaluation of your installations by performing the procedure described below. A test pilot developed this procedure during flight test evaluations of an airplane. The pilot inadvertently unlatched the buckle during some testing and then showed that he could consistently unlatch the buckle by performing the actions described in the procedure.

Procedure

Seat a person approximately 5 feet tall (this height represents approximately 5% females in the US) in the flight crew seat, with the seat placed in the most forward location. Have the person pull the control yoke back to the most aft position, rotate the yoke fully to the right and then to the left. Test observers should check if the yoke engages the fins of the seat belt buckle.

If any part or feature of the yoke including, but not limited to the map/chart holder, engages the fins on the buckle, then we recommend you replace the buckle with a guarded buckle. It isn't necessary for the buckle to disengage for the test to be considered a failure.

NOTE: This SAIB only affects pilot and copilot seats equipped with unguarded buckles on airplanes with control yokes. Airplanes equipped with stick and side stick controls are excluded. Movement of these types of controls doesn't create a rotary movement that could engage the fins of an unguarded rotary buckle.

For Further Information Contact

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TABLE 1 - AFFECTED AIRCRAFT

Aerospatiale (S.N.I.A.)	ATR42
	ATR72
	SN-601 "Corvette"
BAE Systems Limited	ATP
	BAe 146
	Jetstream 4100 Series
Boeing	707
	717
	727
	737
	747
	757
	767
	777
Bombardier Aerospace Inc.	BD-100-1A10 (Challenger)
Bombardier Inc.	BD-700-1A10 (Global Express)
	CL-600-1A11 (CL-600 series)
	CL-600-2C10 (CRJ 700 series)
	CL-600-2D24 (CRJ 900 series)
	DHC-3
	DHC-4
	DHC-6
	DHC-7
British Aerospace	BAC 1-11
Airbus Limited	
Cessna Aircraft Company	500
	550
	S550
	560
	560XL
	750
Dassault- Aviation	Fan Jet Falcon
	Mystere-Falcon 20
	Mystere-Falcon 200
	Mystere-Falcon 50
	Mystere-Falcon 900

Dassault-	Falcon 900EX
	Falcon 2000
	Falcon 2000EX
Embraer	EMB-120
	EMB-135
	EMB-145
Fairchild	328-100
Dornier GmbH	328-300
Fokker Services	F27
	F.28
Gulfstream	G-IV
Aerospace Corporation	GV
	GV-SP
Gulfstream	Astra
Aerospace LP (Israel Aircraft Industries, Ltd.)	Galaxy
Israel Aircraft Industries, Ltd.	1121
Learjet	24
	25
	31
	35
	45
	55
	60
Lockheed Martin L-1011 Corporation	
McDonnell Douglas	DC-8
	DC-9
	DC-10
	MD-11
Raytheon	BAe.125
	BH.125
	DH.125
	HS.125
	1900D
Saab Aircraft AB	SAAB 2000
	SAAB 340
Short Brothers PLC	SD3-30
	SD3-60